SERVICE DATA
FILE NO. 140-125

TOSHIBA

STEREO TURNTABLE

SR-M70

SPECIFICATIONS

Type:	Fully automatic player with micro-computer-controlled band search function.
Motor type:	DC Servo-control motor
Turntable speeds:	33-1/3 and 45 rpm
Platter speed adjustment range:	More than ±2% for both 33-1/3 and 45 rpm Stroboscopic speed sensing is provided.
Turntable platter:	31 cm aluminum diecast
Tonearm:	Static balanced straight pipe tonearm Effective length: 215 mm Overhang: 16 mm Tracking error: $-2^{\circ} \sim +2^{\circ}$ Tracking force adjustment (direct-read scale) Anti-skating mechanism (direct-read scale co-ordinated with tracking force)
Cartridge:	Moving magnet (MM) C-33 Output voltage: 0.6 mV/cm/sec Frequency response: 20 ~ 20,000 Hz Channel balance (1 kHz): <2 dB Crosstalk (1 kHz): >20 dB Load resistance: 47K ~ 100K ohm Stylus tip: 12.7μm Ultra-C spherical stylus Dynamic compliance (lateral): 8 mm/N Tracking force: 2 gf Stylus replacement: N-33C
Wow and flutter:	WRMS: less than 0.05%
Rumble:	DIN B: lower than −65 dB
Mains voltage and frequency:	AC 220V 50 Hz (For Europe) AC 240V 50 Hz (For U.K. and Australia)
Power consumption:	Max. 6.5W
Major dimensions:	with cover closed 420(W) x 125(H) x 382(D) mm with cover fully opened 420(W) x 330(H) x 432(D) mm
Weight:	Approx. 5 kg

Specifications are subject to change without notice.

TE, TU, AY

1. OPERATING CONTROLS

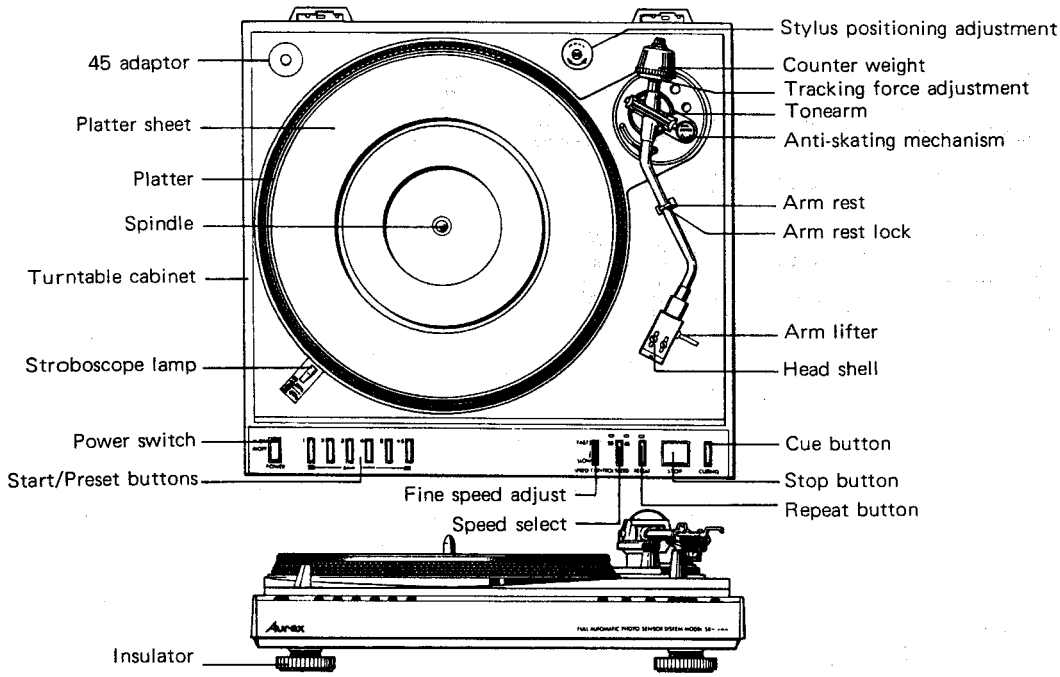


Figure 1.

2. BLOCK DIAGRAM

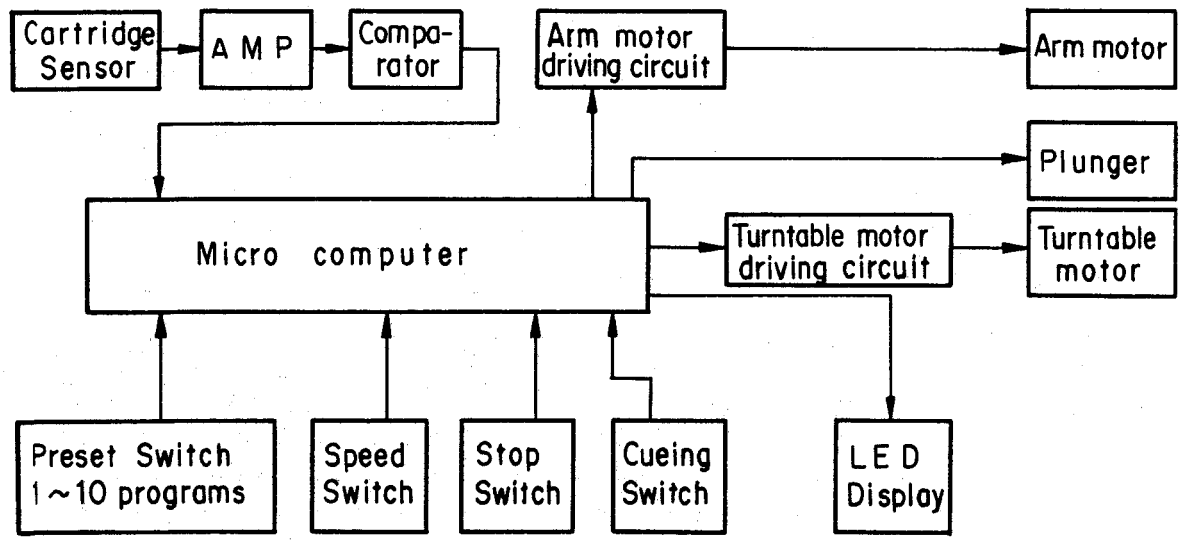
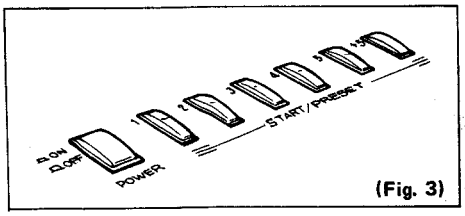


Figure 2.

3. OPERATING CONTROLS

AUTOMATIC OPERATION (AUTO START)

A unique feature of this turntable is the Automatic Band Search function which permits the selection of any one of 10 bands with which to begin the play. This is provided by a sophisticated optical sensing device.



(Fig. 3)

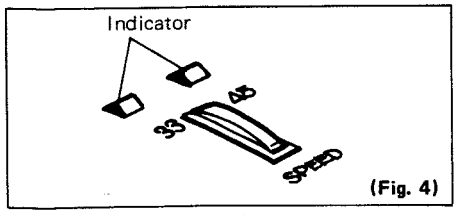
(1) To select the desired band, press the corresponding start button to that selected from among the START/PRESET buttons. This will cause the arm to move across the face of the record to the entry point of the band which has been selected, and the play will then begin.
- To select a band number from 1 through 5, simply press the number so marked. (For example, if it is wished to begin the play with the third band, simply press the button marked "3").
- To select a band number between 6 and 10, press the button whose number is the required band number less 5, then press the button marked "+5". (For example, if the band number desired is 7, press the button marked "2", and then the "+5" button.)

(2) Adjust the amplifier volume control to obtain the required sound level immediately after the stylus has come in contact with the surface of the record.

[Note]
- The selected band number can be changed as often as desired simply by pressing a different button. This must, however, be done before the arm reaches a position above the record.
  Should the CUE button be pressed during the time the arm is above the record in the search mode, the search order will be cancelled and the arm will descend to the record surface at a point directly below.
- Before pressing the START/PRESET button to set the arm in motion, check that the arm is in its rest position on its stand. If this should not be the case, pressing this button will have no effect.

(3) The speed of the turntable will automatically be selected according to the record size:
  30 cm records – 33 rpm.
  17 cm records – 45 rpm.
  When a 30 cm record is to be played at 45 rpm, or a 17 cm record at 33 rpm, press the SPEED SELECTOR button after the arm has reached a position above the record.

[Note]
The actual speed of the turntable is displayed by the indicator immediately above the SPEED SELECTOR button.

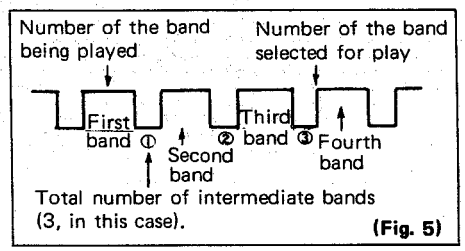


(Fig. 4)

(4) At the end of the record, the arm will automatically lift from the record and return to its stand, after which the turntable will come to rest after it has lost its rotary momentum.

INTERMEDIATE BAND SELECTION

Another attractive feature of this turntable is its ability to by-pass any band or bands up to a maximum of 10 beyond that being played. For example, to go to band 4 after the one being played, press the button marked "3" in the START/PRESET button group because three bands must be skipped.


Number of the band being played
Number of the band selected for play
First band ①
Second band
② band ③ Fourth band
Third
Total number of intermediate bands (3, in this case).
(Fig. 5)

To skip from 6 to 10 bands, first press the button bearing the number of the bands skipped less 5, then press the button marked "+5". (For example, if 7 bands are to be skipped, then first press the button marked "2", and then press the "+5" button).

[Note]
If the button is pressed when the arm is approaching the end of the band being played, occasionally, the selected number of bands to be skipped plus one will result.

NOTES ON AUTOMATIC BAND SEARCH AND ON INTERMEDIATE BAND SELECTION

(1) For various types of records, such as those mentioned below, the operation of these functions may tend to be erratic; this does not, however, mean that the equipment is malfunctioning. Should this occur, the Manual mode of operation must be resorted to.
- Records, the colours of which are other than black, or if there is a printed overlay on the band portions.
- Records with extremely narrow bands – the playing time of the music is very short.
- Records whose grooves are quite broad or rough because of the magnitude of the sound recorded.
- Sonosheets or non-standard records in which there is a sound impression to the very end of the groove.
- Records which have become bent, dirty, dusty, or scratched to an excessive degree.

(2) If the turntable is inadvertently set in motion with no record on the platter, or the selected band number is greater than the existing number of bands, the arm will move to the center of the turntable and without lowering, will return to its stand, and the turntable will stop turning.

(3) If a selection has been made incorrectly, press the STOP button which will cause the arm to return to its stand. And then, press the START/PRESET button.

(4) Never touch the turntable while it is turning, or attempt to interfere with the motion of the arm. Either of these actions could result in the equipment malfunctioning or becoming misadjusted.

(5) Do not use record pads on the turntable other than that already attached, as this could cause erratic operation.

AUTO-REPEAT OPERATION

This turntable has a convenient auto-repeat feature that allows records to be played automatically over and over again.
- Lightly press the Auto-repeat button, then follow the directions in the Auto-Start section. The same record will be played repeatedly.
- To discontinue the Repeat function while the unit is in operation, press the REPEAT button a second time. (Although the indicator light goes out, the unit will continue to operate until the end of the record.) Pressing the STOP button will also interrupt the Repeat function and cause the light to go out. In this case, however, the tone arm will lift from the record and return to its rest stand, and the turntable will stop rotating.

[Note]
During the period the arm is returning to its stand in auto return mode or after the STOP button has been pressed, neither the START/PRESET nor the CUE buttons will have any effect if pressed.

AUTO-STOP OPERATION

To stop record play before the end of the record, simply press the Stop button. The tone-arm will return to the arm rest immediately. The power will also turn off, and the platter come to a stop.

MANUAL OPERATION

(1) The turntable speed may be selected by pressing the SPEED SELECTOR switch, and 33 or 45 will be alternately selected. Check the Speed Indicator to ensure the proper turntable speed.

(2) If the REPEAT indicator light is on, it may be turned off by pressing the REPEAT button which cancels the Repeat function.

(3) The turntable will begin to turn when the arm is raised by its finger bar and moved slightly towards the center of the platter. After the turntable is up to speed, gently lower the arm to the beginning of the groove of the band to be played. If the arm is to be lowered by the mechanism, press the CUE button before the arm is raised so that the cuing action will maintain the arm in the elevated position.

(4) Lower the tip of the stylus very gently on the record surface. When the stylus is to be lowered by cuing, press the CUE button again, which will cause the turntable mechanism to perform this function. When the record begins to play, adjust the amplifier volume control to provide the desired sound level.

(5) When the record has finished playing, the arm will automatically lift and return to its stand. Then the turntable will slowly stop spinning.

INTERRUPTION OF PLAY

When it is desired to interrupt the playing of the record, press the CUE button. This will cause the stylus to be lifted off the record but not to be returned to the stand. The arm can then be moved manually to any other spot on the record, and lowered by again pressing the CUE button. The record will then be played from the spot onto which the stylus is set.

4. DISASSEMBLY INSTRUCTIONS

BOTTOM PLATE REMOVAL

1. Remove 6 screws ①. See figure 6.
2. Remove the bottom plate from the cabinet.

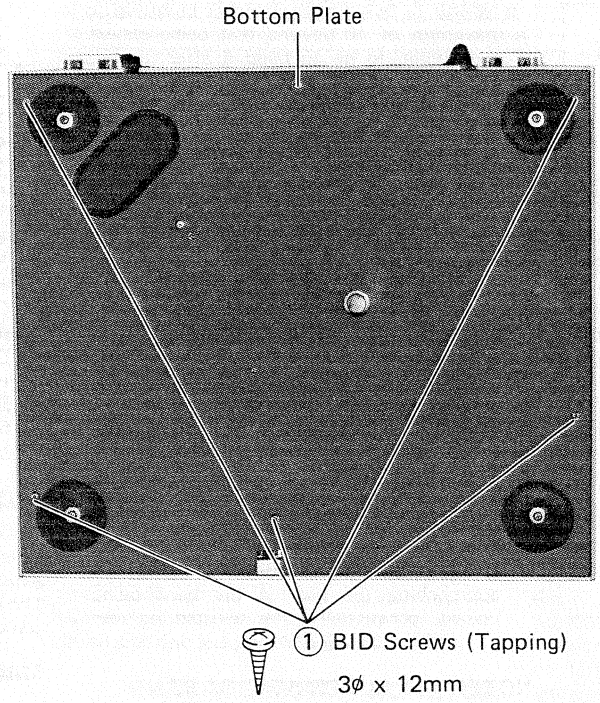


Figure 6.

5. ADJUSTMENTS

TRACKING FORCE ADJUSTMENT

(Note: This adjustment is important)

If the turntable has already been connected to an amplifier, be sure to switch the amplifier's power supply off before commencing this adjustment.

1. First, raise the stylus cover.
2. Check that the tonearm itself is free to move from the arm rest.
3. Set the anti-skating mechanism to read "0".
4. Now carefully screw the counterweight out backwards until the tonearm is perfectly balanced in a horizontal plane. Then keeping the counterweight still, turn the tracking force scale only to align the "0" with the reference line.
5. Next turn the counterweight together with the tracking force scale so that the scale reading corresponds to the tracking force rating specified for your cartridge (must be 2.0gf). [Stylus force is expressed in grammes force. (gf; 1gf = 10mN)]
6. Return the tonearm to the arm rest.
7. Also adjust the anti-skating mechanism to the same value as the tracking force.

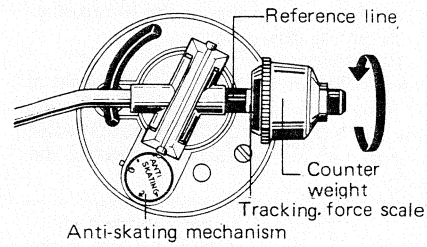


Figure 7.

PLATTER SPEED ADJUSTMENT

While watching the markings on the side of the turntable platter by the strobe lamp, adjust the speed with the speed control knob. When the relevant stroboscope markings appear to be stationary, the platter will be rotating at the correct speed. The speed may be increased by turning the speed control knob upwards and decreased by turning downwards. Set the auto speed selector to "45" for 45 rpm operation and to "33" for 33-1/3 rpm operation.

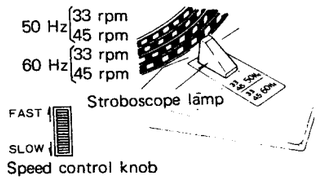


Figure 8.

STYLUS POSITIONING ADJUSTMENT

The points to which the stylus will lower to the record surface was originally adjusted in the factory. Should adjustment become necessary, however, proceed as follows:

[Note]

- For adjustment reference purposes, use the last band of a record with about six bands.
- Should the stylus lower to a point near the end of the previous band, insert a screwdriver into the adjustment screw and turn slightly clockwise.
- Should the stylus lower about half way into the selected band, turn the adjustment screw counterclockwise.

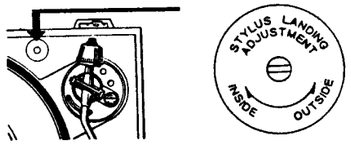


Figure 9.

ADJUSTMENT OF SENSOR SENSITIVITY

Depending on the type and condition of the record being played, occasionally in Auto play, the arm will lower before or after the selected number of bands, or may just sweep across the record without making contact, and then return to its stand. Such actions are not to be interpreted as malfunctions. In such cases, change the level of sensor sensitivity by moving the SENSITIVITY SELECTOR from the "L" to the "H" position as indicated below, and attempt to operate the unit again.

- Normally this selector is positioned at "M".
- If the arm lowers before the selected band, move the selector to "L".
- If the arm sweeps across the selected band and then lowers, or just moves across to the end of the bands without lowering at all and then returns to the stand, move the selector to "H".

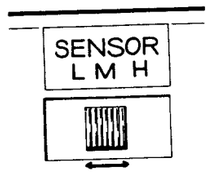


Figure 10.

TEST POINTS AND ADJUSTMENT VR POSITIONS

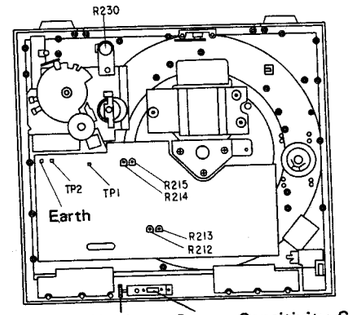
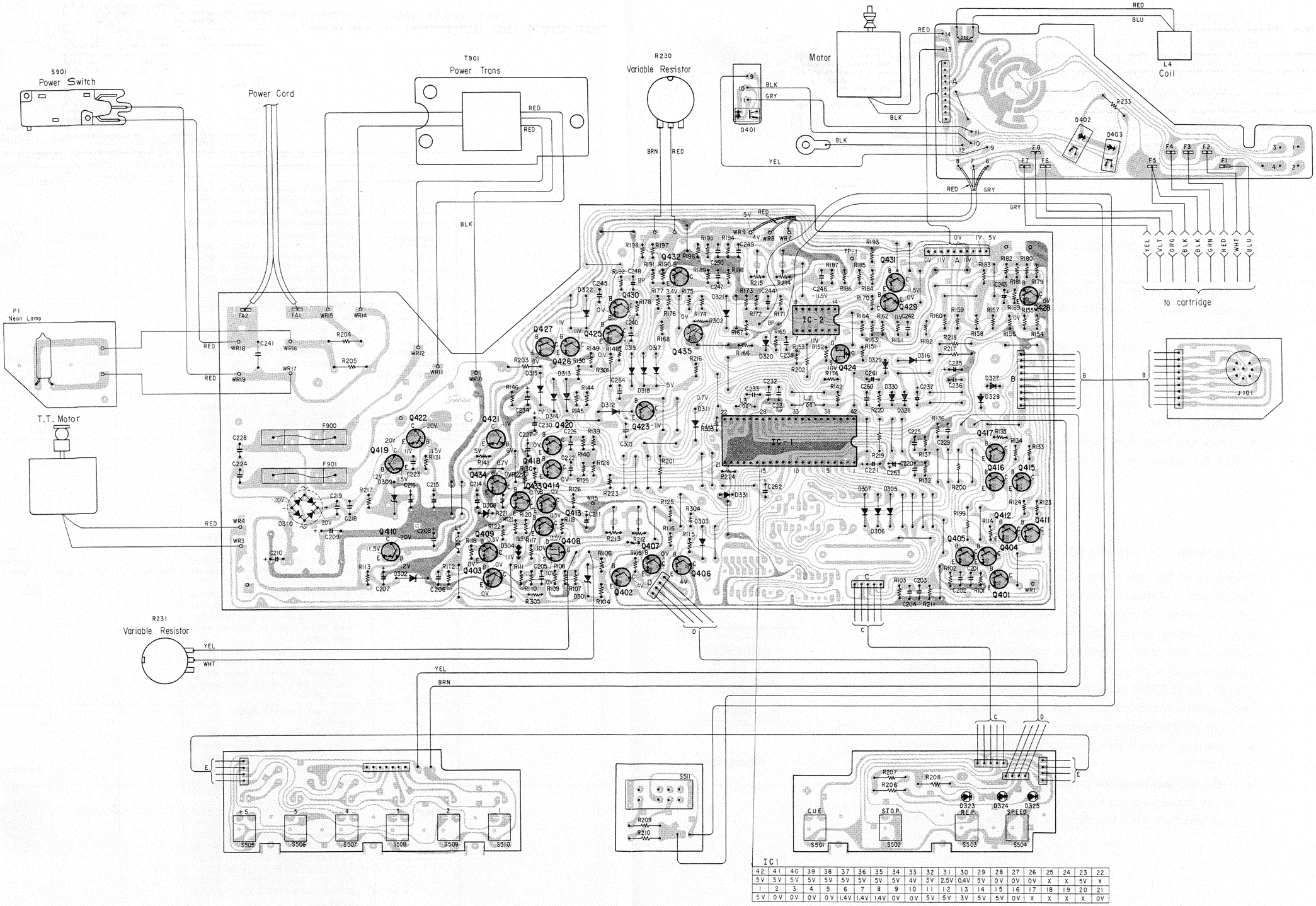


Figure 11.

	Adjustment Method	Measuring Instrument	Measuring Location	Adjustment Location	Reference
Speed control	1. Place on the strobe test sheet, turn on to a playing condition and turn the revolution adjustment knob to the center of the machine (near the center of the VR revolution angle). 2. For 33 rpm: Adjust so that the strobe stops at the semi-fixed resistance R212. 3. For 45 rpm: Adjust so that the strobe stops at the semi-fixed resistance R213. Caution: Adjust at 33 rpm first.	——	Strobe test sheet	For 33 rpm, R212 For 45 rpm, R213	Position where the strobe stops.
Adjustment of descending position between songs	1. Clean the arm lifter rubber portion with benzene. 2. Depress the pre-set button and turn the descent position control knob volume (R230) so that it falls in the space where there are no signals. 3rd revolution 3 kHz 2nd revolution no signals 1st revolution 3 kHz Endless portion Between songs	——	6th or 7th song on test record TX-3007	Descent position control resistance R230	To fall on the part without signals, between songs. (It is alright to fall on the 3 kHz part of the first revolution.)
Sensor sensitivity control	1. Needle pressure 2g, anti-skating knob 2g. Adjust height of needle to 5.5 mm. Note: To adjust needle height, place on an LP record and measure at outer edge. Adjust with the arm lifter control screw. 5.5mm LP record 2. Connect the multi-tester to test point TPI. 3. Turnt the semi-fixed resistance R215 completely in the clockwise direction (looking at the top of the set.) 4. In the cuing condition, place the needle near the middle of the 3 kHz track on TX-3007 and with the semi-fixed resistance R214, adjust so that the meter reads 0.85V. 5. In the cuing condition, place the needle near the middle of the non-signal track on TX-3007 and with the semi-fixed resistance R215, adjust so that the meter reads 1.25V.	Multi-tester	TPI and earth	Arm lifter Adjustment screw R214 R215	Needle height 5 ~ 6mm 0.85V 1.25V
Descent position control	1. Set the test record (TX-3002). (use 30 cm.) 2. Depress the start button 1 and adjust the control cam so that the when the needle descends, it falls in the following areas. 3. The descent position areas are "SUZUME GA NE..... KAWAII". The center of this area is "**DANDAN**". .....DANDAN DARE GA MEKKATTA. ~ SUZUME GA NE OYANE DE CHON CHON KAKURENBO. DONNA NI JOZU NI KAKURETEMO CHAIRO NO BOSHI GA MIETERU YO. **DANDAN** DARE GA MEKKATTA. ~ KOINU GA NE NOHARA DE YOCHI YOCHI KAKURENBO. DONNA NI JOZU NI KAKURETEMO, KAWAII SHIPPO GA MIETERU YO. DANDAN DARE.....	——	——	Control cam	

6. WIRING

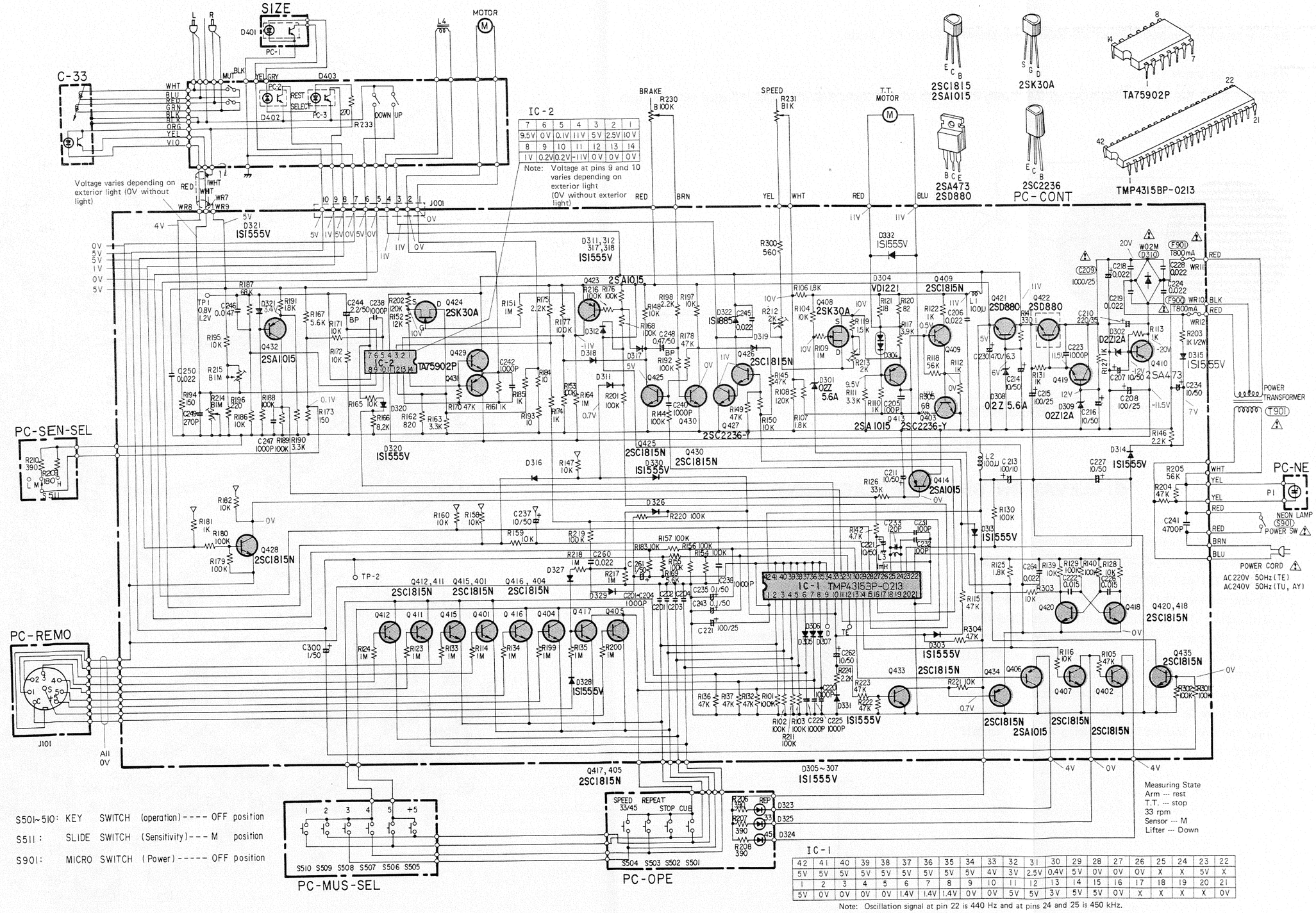


IC1

42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22
5V	5V	5V	5V	5V	5V	5V	5V	5V	4V	3V	2.5V	0.4V	5V	0V	0V	0V	X	X	5V	X
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
5V	0V	0V	0V	0V	1.4V	1.4V	1.4V	0V	0V	5V	5V	3V	5V	5V	0V	X	X	X	X	0V

Figure 12.

7. SCHEMATIC DIAGRAM



IC-2						
7	6	5	4	3	2	1
9.5V	0V	0.1V	11V	5V	2.5V	10V
8	9	10	11	12	13	14
1V	0.2V	0.2V	-11V	0V	0V	0V

IC-1																					
42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22
5V	5V	5V	5V	5V	5V	5V	5V	5V	4V	3V	2.5V	0.4V	5V	0V	0V	0V	X	X	5V	X
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
5V	0V	0V	0V	0V	1.4V	1.4V	1.4V	0V	0V	5V	5V	3V	5V	5V	0V	X	X	X	X	0V

Note: Oscillation signal at pin 22 is 440 Hz and at pins 24 and 25 is 450 kHz.

CAUTION: The ⚠ mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

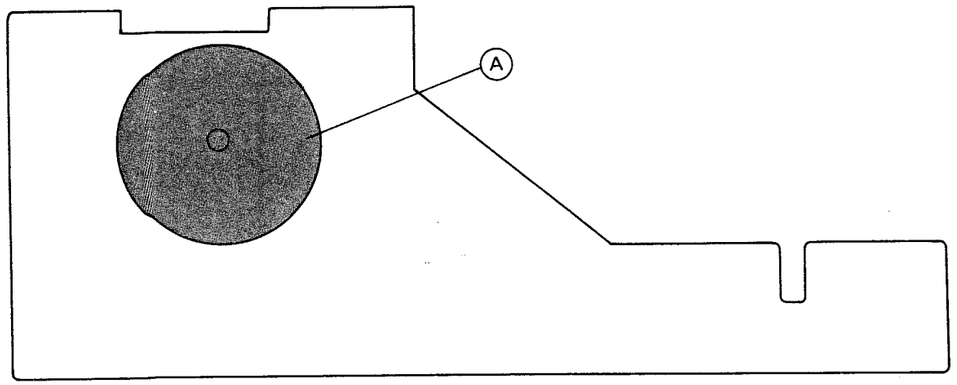
Figure 13.

8. MUTING P.C. BOARD REPLACEMENT

Be sure to apply Toshiba's grease YG-1000 when replacing Muting P.C. Board.

How to apply grease

Apply grease to the place marked Ⓐ on the Muting P.C. Board to the extent that the board is coated with this film.



Muting P.C. Board (Bottom View)

Figure 14.

9. ELEVATION SHAFT REPLACEMENT

When replacing elevation shaft, apply any silicone oil of which the viscosity is 10,000 CS (1MCS) (Ex. TOSHIBA SILICONE TSF-451-10000) to the new shaft.

1. Mount the elevation shaft to the cabinet and fasten it with screws after applying the beforementioned silicone oil to the part marked by oblique lines as shoun in figure 15. For adjustment of screws, refer to "STYLUS HEIGHT ADJUSTMENT".
2. Make certain that stylus tip descends on the disk surface within from 2 to 5 seconds after taking up PU arm over the disk and setting the cueing knob to "DOWN" position.

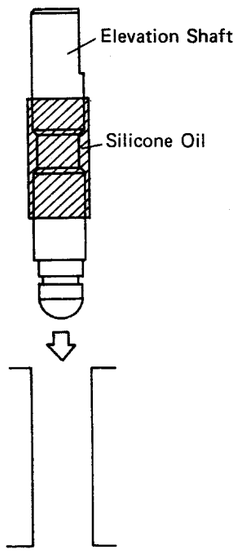


Figure 15.

10. MECHANICAL AND CABINET PARTS LOCATIONS

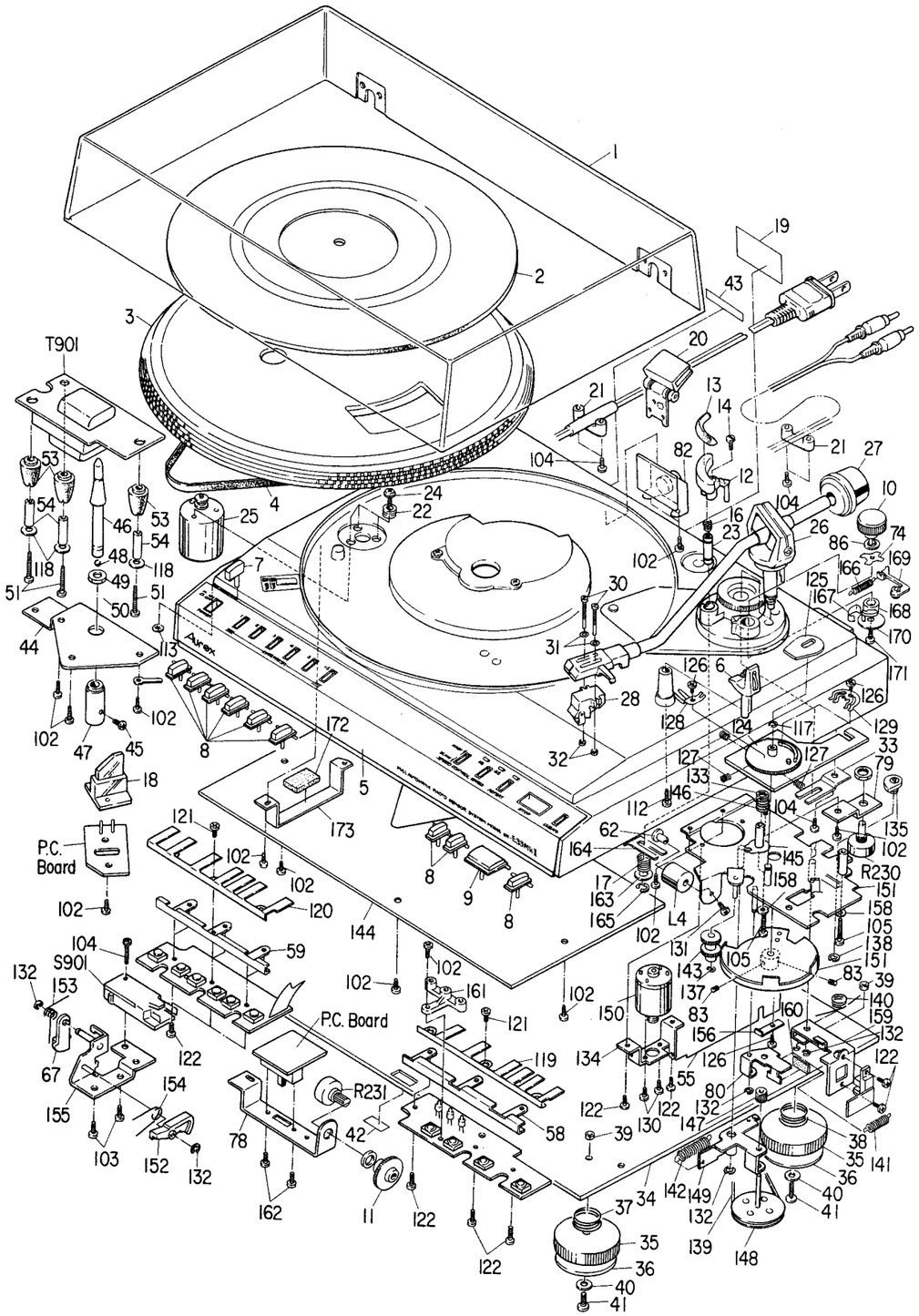


Figure 16.

NOTE: Excluded parts in the Parts List are not available as replacement parts.

11. PARTS LIST

Symbol No.	Part No.	Description
		MECHANICAL AND CABINET PARTS
1	20847125	Cover Ass'y, Player
2	20723092	Sheet, Turntable
3	20723093	Turntable
4	20728023	Belt, Turntable
5	20811377	Cabinet Ass'y (TE, AY)
5	20811384	Cabinet Ass'y (TU)
6	20731208	Arm Ass'y, Rest
7	20753375	Button, Power
8	20753371	Button, Operation
9	20753373	Button, Stop
10	20871353	Knob, Anti-skating
11	20871352	Knob, Speed Control
12	20735047	Lifter, Arm
13	20735058	Cushion, Arm Lifter
14	22707483	Screw (FLT), 2.6ø x 12mm
16	25777017	Spring
17	25777011	Spring
18	20749094	Reflector
19	20878013	Nameplate (TE)
19	20878018	Nameplate (TU, AY)
20	20861090	Hinge, Player
21	22184117	Clamp, Cord
22	20881180	Cushion, Motor
23	20763368	Shaft, Elevation
24	22707283	Screw, 3ø x 10mm
25	20786356	Motor Ass'y (T.T), DC
26	20788124	Tonearm
27	20788106	Weight
28	22155090	Cartridge, C-33
30	22707591	Screw, 2.6ø x 13mm
31	20791077	Washer, 2.7ø
32	20796027	Nut, 2.6ø
33	20746289	Clamper, Arm
34	20824074	Plate Ass'y, Bottom
35	20842151	Insulator
36	20849240	Sheet, Insulator
37	25772549	Spring, Insulator, Front
38	25772550	Spring, Insulator, Back
39	22702108	Nut, 3ø
40	22703269	Washer, 3ø
41	22707453	Screw (BID), 3ø x 16mm
42	22900096	Label, Sensor
43	22900077	Label, Remote
45	22707151	Screw (BID), 2.6ø x 5mm
46	20725071	Shaft, Table
47	20725076	Bush, Turntable
48	20773077	Ball, Steel
49	22702162	Nut, 11ø
50	22703142	Washer, 11.5ø
51	22701334	Screw (BID), 3ø x 35mm, Tapping
53	20881270	Cushion, Rubber
62	20773303	Spacer
67	25782208	Lever
74	25779049	Spring
83	22707498	Screw, 3ø x 35mm
102	22707165	Screw (BID), 3ø x 10mm, Tapping
103	22707118	Screw (BID), 3ø x 12mm, Tapping
104	22707276	Screw (BID), 3ø x 16mm, Tapping
105	22701247	Screw (BID), 3ø x 25mm, Tapping
117	22703279	E Ring, 3ø
119	20753390	Spring, Switch Key
120	20753391	Spring, Switch Key
121	22701313	Screw (BID), 3ø x 4mm
122	22707366	Screw (DTBID), 2.6ø x 6mm
124	20757030	Gear, Cueing
125	20776106	Sheet, Nylon
126	22707686	Screw (BID), 2ø x 4mm
127	25777032	Spring, Contact
128	25779144	Spring
129	25779145	Spring
130	22701389	Screw (BID), 2.6ø x 3mm
131	22707066	Screw (BID), 3ø x 6mm
132	22703118	E Ring, 2ø
133	22703241	E Ring, 5ø
135	20757027	Cam, Adjust
137	25735159	E Ring, 1.5ø
138	25735222	E Ring, 4ø
139	25755390	Belt, Idler
140	25773523	Spring, Adjust
141	25776251	Spring, Brake
142	25776253	Spring
143	20721068	Gear Ass'y
145	20776107	Plate, Damper
146	25777039	Spring, Damper
147	20727047	Gear
148	20721069	Gear Ass'y
150	20786351	Motor Ass'y, DC
152	20753367	Lever, Power Switch
153	25773524	Spring, Power Switch
154	25773525	Spring, Power Switch Lever
156	25779159	Plate, Slit Adjust
158	22703269	Washer, 3ø
160	20776105	Shoe, Brake

CAUTION: The ⚠ mark, the symbol No. circled with rectangle in the schematic diagram and the shaded area in the parts list designate components which have special characteristics important for safety and should be replaced only with types identical to those in the original circuit or specified in the parts list.

Symbol No.	Part No.	Description
		TRANSISTORS, ICS AND DIODES
Q401, 402		Transistor, 2SC1815N-Y/BL
Q403		Transistor, 2SC2236-Y
Q404, 405		Transistor, 2SC1815N-Y/BL
Q406		Transistor, 2SA1015-Y/GR
Q407		Transistor, 2SC1815N-Y/BL
Q408		Transistor, 2SK30A-GR, FET
Q409		Transistor, 2SC1815N-Y/BL
Q410		Transistor, 2SA473-Y
Q411, 412		Transistor, 2SC1815N-Y/BL
Q413, 414		Transistor, 2SA1015-Y/GR
Q415, 416		Transistor, 2SC1815N-Y/BL
Q417, 418		Transistor, 2SC1815N-Y/BL
Q419, 420		Transistor, 2SC1815N-Y/BL
Q421, 422		Transistor, 2SD880-O
Q423		Transistor, 2SA1015-Y/GR
Q424		Transistor, 2SK30A-GR, FET
Q425, 426		Transistor, 2SC1815N-Y/BL
Q427		Transistor, 2SC2236-Y
Q428, 429		Transistor, 2SC1815N-Y/BL
Q430		Transistor, 2SC1815N-Y/BL
Q431, 432		Transistor, 2SA1015-Y/GR
Q433, 434		Transistor, 2SC1815N-Y/BL
Q435		Transistor, 2SC1815N-Y/BL
IC1	22114930	LSI, TMP4315BP-0213
IC2		IC, TA75902P
D301		Diode, 02Z5.6A, Zener
D302		Diode, 02Z12A, Zener
D303		Diode, 1S1555V
D304	22115617	Diode, VD1221, Varistor
D305, 306		Diode, 1S1555V
D307		Diode, 1S1555V
D308		Diode, 02Z5.6A, Zener
D309		Diode, 02Z12A, Zener
⚠ D310	22115627	Rectifier, W02M
D311		Diode, 1S1555V
D312		Diode, 1S1555V
D313, 314		Diode, 1S1555V
D315, 316		Diode, 1S1555V
D317, 318		Diode, 1S1555V
D319, 320		Diode, 1S1555V
D321		Diode, 1S1555V
D322		Diode, 1S1885
D323, 324		Diode, TLR123, LED
D325		Diode, TLR123, LED
D326, 327		Diode, 1S1555V
D328, 329		Diode, 1S1555V
D330, 331		Diode, 1S1555V
D332		Diode, 1S1555V
D401, 402		Diode, TLP507A-BL
D404		Diode, TLP507A-BL
		ELECTRICAL PARTS
⚠ T901	22223911	Transformer, Power (TE)
⚠ T901	22223912	Transformer, Power (TU)
⚠ T901	22223913	Transformer, Power (AY)
S501 ~ 510	22195623	Switch, Key
S511	22195650	Switch, Slide, Sensor
⚠ S901	22195368	Switch, Micro, Power
J100	22167890	Socket, 10P
J101	22167909	Socket, Din, 8P
L1, 2	22241028	Coil, 100μH
L3	22232204	Coil, 1mH
L4	22210148	Coil, Idler
⚠ F900, 901	22144387	Fuse, T 800mA/250V
P1	22113437	Lamp, Neon
EP01	25111007	P.C. Board, Muting
EP02	22164837	Cord, PIN Plug
⚠ EP03	22176286	Cord, Power (TE)
⚠ EP03	22176536	Cord, Power (TU)
⚠ EP03	22176588	Cord, Power (AY)
		CAPACITORS
		J = ±5%, K = ±10%, Z = –20 +80%
		ABBREVIATIONS: CD = Ceramic Disk, MY = Mylar, EL = Electrolytic
C201, 202	22349102	CD, 1000pF, 50V, K
C203, 204	22349102	CD, 1000pF, 50V, K
C205	22349101	CD, 100pF, 50V, K
C206	22342223	CD, 0.022mfd, 50V, Z
C207	22488100	EL, 10mfd, 50V
C208	22486101	EL, 100mfd, 25V
⚠ C209	22440408	EL, 1000mfd, 25V
C210	22487221	EL, 220mfd, 35V
C211	22488100	EL, 10mfd, 50V
C213	22483101	EL, 100mfd, 10V
C214	22488100	EL, 10mfd, 50V
C215	22486101	EL, 100mfd, 25V
C216	22488100	EL, 10mfd, 50V
C218, 219	22342223	CD, 0.022mfd, 50V, Z
C220	22349102	CD, 1000pF, 50V, K
C221	22486101	EL, 100mfd, 25V
C222	22371153	MY, 0.015mfd, 50V, J
C223	22349102	CD, 1000pF, 50V, K
C224, 228	22342223	CD, 0.022mfd, 50V, Z

Symbol No.	Part No.	Description
C225	22349102	CD, 1000pF, 50V, K
C226	22371153	MY, 0.015mfd, 50V, J
C227	22488100	EL, 10mfd, 50V
C229	22349102	CD, 1000pF, 50V, K
C230	22482471	EL, 470mfd, 6.3V
C231	22349101	CD, 100pF, 50V, K
C232	22349101	CD, 100pF, 50V, K
C233	22349121	CD, 120pF, 50V, K
C234	22488100	EL, 10mfd, 50V
C235	22488108	EL, 0.1mfd, 50V
C236	22349102	CD, 1000pF, 50V, K
C237	22488100	EL, 10mfd, 50V
C238	22349102	CD, 1000pF, 50V, K
⚠ C240	22349102	CD, 1000pF, 50V, K
C241	22340150	CD, 4700pF, 400V
C242	22349102	CD, 1000pF, 50V, K
C243	22488108	EL, 0.1mfd, 50V
C244	22478229	EL, 2.2mfd, 50V
C245	22342223	CD, 0.022mfd, 50V, Z
C246	22371473	MY, 0.047mfd, 50V, J
C247	22349102	CD, 1000pF, 50V, K
C248	22478478	EL, 0.47mfd, 50V, BP Type
C249	22349271	CD, 270pF, 50V, K
C250	22342223	CD, 0.022mfd, 50V, Z
C260	22342223	CD, 0.022mfd, 50V, Z
C261	22488109	EL, 1mfd, 50V
C262	22488100	EL, 10mfd, 50V
C263	22488100	EL, 10mfd, 50V
C264	22342223	CD, 0.022mfd, 50V, Z
C300	22488109	EL, 1mfd, 50V

RESISTORS

Resistors are carbon film ¼W, ±5% unless otherwise noted. K = 1000, M = 1000000

R101, 102	22555104	100K ohm
R103	22555104	100K ohm
R104	22555103	10K ohm
R105	22555473	47K ohm
R106	22555182	1.8K ohm
R107	22555182	1.8K ohm
R108	22555124	120K ohm
R109	22555105	1M ohm
R110	22555102	1K ohm
R111	22555332	3.3K ohm
R112, 113	22555102	1K ohm
R114	22555105	1M ohm
R115	22555473	47K ohm
R116	22555103	10K ohm
R117	22555392	3.9K ohm
R118	22555563	56K ohm
R119	22555152	1.5K ohm
R120	22555820	82 ohm

Symbol No.	Part No.	Description
R121	22555180	18 ohm
R122	22555102	1K ohm
R123, 124	22555105	1M ohm
R125	22555182	1.8K ohm
R126	22555333	33K ohm
R127	22555102	1K ohm
R128	22555103	10K ohm
R129	22555104	100K ohm
R130	22555104	100K ohm
R131	22555102	1K ohm
R132	22555473	47K ohm
R133, 134	22555105	1M ohm
R135	22555105	1M ohm
R136, 137	22555473	47K ohm
R139	22555103	10K ohm
R140	22555104	100K ohm
R141	22555331	330 ohm
R142	22555472	4.7K ohm
R144	22555104	100K ohm
R145	22555473	47K ohm
R146	22555222	2.2K ohm
R147, 148	22555103	10K ohm
R149	22555473	47K ohm
R150	22555103	10K ohm
R151	22545105	1M ohm
R152	22555123	12K ohm
R153, 154	22555104	100K ohm
R155, 156	22555104	100K ohm
R157	22555104	100K ohm
R158, 159	22555103	10K ohm
R160	22555103	10K ohm
R161	22555102	1K ohm
R162	22555821	820 ohm
R163	22555332	3.3K ohm
R164	22545105	1M ohm
R165	22555103	10K ohm
R166	22555822	8.2K ohm
R167	22555562	5.6K ohm
R168	22555104	100K ohm
R169	22555562	5.6K ohm
R170	22555473	47K ohm
R171, 172	22555103	10K ohm
R173	22555151	150 ohm
R174	22555102	1K ohm
R175	22555222	2.2K ohm
R176, 177	22555104	100K ohm
R178	22555473	47K ohm
R179, 180	22555104	100K ohm
R180	22555102	1K ohm
R182, 183	22555103	10K ohm
R184	22555100	10 ohm
R185	22555102	1K ohm
R186	22555103	10K ohm

Symbol No.	Part No.	Description
R187	22555683	68K ohm
R188, 189	22555104	100K ohm
R190	22555332	3.3K ohm
R191	22555182	1.8K ohm
R192	22555104	100K ohm
R193	22555100	10 ohm
R194	22555151	150 ohm
R195	22555103	10K ohm
R196	22555221	220 ohm
R197	22555103	10K ohm
R198	22555222	2.2K ohm
R199, 200	22555105	1M ohm
R201	22555104	100K ohm
R202	22555124	120K ohm
R203	22547102	1K ohm, ½W
R204	22545473	47K ohm
R205	22545563	56K ohm
R206, 207	22545391	390 ohm
R208	22555391	390 ohm
R209	22545181	180 ohm
R210	22545391	390 ohm
R211	22555104	100K ohm
R212, 213	22658485	2K ohm, Semi-fixed Resistor
R214, 215	22658546	1M ohm, Semi-fixed Resistor
R216	22545104	100K ohm
R217, 218	22545105	1M ohm
R219	22555104	100K ohm
R221	22555103	10K ohm
R222, 223	22555473	47K ohm
R230	22622424	100K ohm, Variable Resistor
R231	22622423	1K ohm, Variable Resistor
R233	22545271	270 ohm
R300	22555561	560 ohm
R301, 302	22555104	100K ohm
R303	22555103	10K ohm
R304	22555472	4.7K ohm
ACCESSORIES		
AC01	20971046	Adaptor, 45 r.p.m.
AC02	22902887	Owner's Manual

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